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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/829,781 | 04/10/2001 | Tsung-Yuan Hsu | B-3916 617818-6 | 1039 |

36716 7590 04/12/2005

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| EXAMINER |
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NGUYEN, DUNG T

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| ART UNIT | PAPER NUMBER |
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2828

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 09/829,781 | Applicant(s) HSU ET AL. (M) | |
| | Examiner Dung (Michael) T. Nguyen | Art Unit 2828 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 19-34 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-5, 7-10 and 19-34 is/are rejected.
 7) ☒ Claim(s) 6 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-10 and 19-34 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, 8-10, 19-28, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Esman (US5561546).

With respect to claims 1, 19, 22-23, 25, and 30, Esman shows in Fig.1 a laser system with self-injection locking, the system including a laser 12 having a laser output at a frequency ω_0 (Fig.1d); an optical port 16b providing a portion of the laser output at the port; a modulator 14, coupled to the port, driven by a RF signal at a frequency ω_m 11 to generate two sidebands at $\omega_0 \pm \omega_m$ (Fig.1a); a filter 16a and 16c (col.4, 1.40-47) coupled to the modulator for passing or suppressing one of the two sidebands of the signal $\omega_0 \pm \omega_m$ (Fig.1c); and an

optical path 10 for coupling an output of the filter to the laser for injection locking the laser.

With respect to claim 2, Fig.1 discloses the modulator 14 is coupled to the laser 12 via an optical coupler 16.

With respect to claim 3, col.3, l.4 discloses a Mach-Zehnder modulator.

With respect to claim 5, col.1, l.14 discloses an electro-optic modulator.

With respect to claims 8, 20, and 24, Fig.1 discloses the modulator 14 produces two carrier suppressed sidebands Fig.1a.

With respect to claim 9, Fig.1 discloses the filter 16a and 16c suppresses the carrier Fig.1c.

With respect to claims 10, 21, and 27, Fig.6 discloses a Bragg fiber grating 34.

With respect to claim 26, col.7, 1.10 discloses the fiber optic cable.

With respect to claim 28, Fig.1 shows the optical path 10 including a free space portion around the optical fiber.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Esman (US5561546) in view of Kuo et al. (US6404590). Esman disclose all limitations of the claim except for the acousto-optic modulator. Kuo teach the acousto-optic modulator (col.3, 1.39). For the benefit of modulating the light beam to provide the efficiency of the laser system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Esman what is taught by Kuo.

Claims 7 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esman (US5561546) in view of Yao (US5777778).

With respect to claim 7, Esman disclose all limitations of the claim except for the distributed feedback laser. Yao teaches the distributed feedback laser (col.12, l.17-18). For the benefit of obtaining a high reliable single frequency laser device in the ring laser, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Esman what is taught by Yao.

With respect to claims 31-34, Yao discloses the optical isolator (col.10, l.53) to prevent any optical feedback.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Esman (US5561546) in view of Wu et al. (US6639946). Esman disclose all limitations of the claim except for the SAW device. Wu teach the SAW device 20 in Fig.2. For the benefit of having the advantage of low noise distortion properties at high signal frequencies carrying high speed data, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Esman what is taught by Wu.

Allowable Subject Matter

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

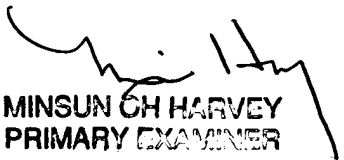
Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Michael Dung Nguyen


MINSUN OH HARVEY
PRIMARY EXAMINER